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EXAMINER

CHU, KIM KWOK

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/573,835	<b>Applicant(s)</b> MATSUBA, TAKANOBU	
	<b>Examiner</b> Kim-Kwok CHU	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on Pre-Amendment filed on 3/29/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 15-25, 28, 30-32, 35, 36, 39 and 40 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 14, 26, 27, 29, 33, 34, 37, 38, 41 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2010 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### ***Drawings***

1. Figures 1 and 2 should be designated by a legend such as -- Prior Art -- as disclosed in the specification, section 62 and 63.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10, 13, 15-25, 28, 30, 31, 32, 35, 36, 39 and 40 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sasaki (U.S. Patent 7,164,640).

4. Sasaki teaches a method for recording information to a recording medium having all of the steps as recited in claims 1-10, 13 and 15. Sasaki teaches the following:

Regarding Claim 1, the method having at least a first recording layer 0 and a second recording layer 1 (Fig. 2C), the first recording layer having a data area (Fig. 3C; data area is between lead-in and lead-out) comprising an inner side (Fig. 2C; near middle area) located at a radially inner region (close to middle area) of the recording medium and an outer side

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located at a radially outer region (next to lead-in and lead-out areas) of the recording medium and the second recording layer 1 (Fig. 2C) comprising a data area B'C' (Fig. 3A) including an inner side located at the radially inner region (next to middle area C'D') of the recording medium and an outer side (next to A'B') located at the radially outer region of the recording medium (Fig. 3A), the method comprising: performing a first formatting process on the data area of the second recording layer 1, the first formatting process comprising formatting the data area of the second recording layer in a series of recording increments (formatting steps), the series (formatting steps) of recording increments progressing from the inner side (near middle area) of the data area of the second recording layer 1 to the outer side (near lead-out area) of the data area of the second recording layer 1 (Fig. 2C; column 8, lines 60-67), wherein within each recording increment (each formatting data step), the formatting (recording/writing of dummy data) is performed along a path extending from the outer side (beginning position) of the data area of the second recording layer 1 to the inner side (ending position) of the data area of the second recording layer 1 (inherent feature where dummy data is written from left to right of the data area while the addressing/formatting is from left to right on layer 1);

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performing a second formatting process (repeat another background formatting after certain data areas are used to write user data; Fig. 9A; incremental formatting) on the data area of the second recording layer 1 once the first formatting process has been completed (Fig. 9A; incremental formatting), the second formatting process (incremental background formatting) being performed along a path extending from the inner side (Fig. 3A; near middle area) of the data area of the first recording layer 1 to the outer side (near lead-out area) of the data area of the first recording layer.

Regarding Claim 2, the recording medium 2 is adapted to be recorded using a laser 4 (Fig. 1), and the first recording layer 0 is the recording layer closest the laser during use (Figs. 1 and 2C; layer 0 is below layer 1 and laser light beam is emitted under layer 0).

Regarding Claim 3, the recording medium is associated with an order of recording user data for each recording layer, and the first recording layer 0 is arranged to be earlier in the recording order than the second recording layer 1 (Fig. 3A; user data is recorded in earlier data areas BE).

Regarding Claim 4, recording user data on a data area of the first recording layer 0 (Fig. 2B) along a path extending from the inner side (next to lead-in area) of the data area of

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the first recording layer 0 to the outer side (next to lead-out area) of the data area of the first recording layer 0 on receipt of a request to record user data (Fig. 2B; data area recorded from regions near lead-in to lead-out areas).

Regarding Claim 5, on receiving a request to record user data, the method comprises recording the user data in priority to the performing the first formatting process or the second formatting process (background incremental formatting).

Regarding Claim 6, resuming the first formatting process after recording the user data if the first formatting process is not complete (background formatting).

Regarding Claim 7, resuming the second formatting process after recording the user data if the first formatting process is complete (background formatting).

Regarding Claim 8, recording predetermined data (dummy data) on the first recording layer 0 at a position immediately after recorded user data on receipt of a request to eject the recording medium (background formatting).

Regarding Claim 9, recording predetermined data (dummy data) on the second recording layer 1 at a corresponding radial position to the predetermined data on the first recording layer 0 (background formatting).

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Regarding Claim 10, recording predetermined data (dummy data) on the second recording layer 1 at the bit inverted addresses to the addresses of the predetermined data on the first recording layer (background formatting).

Regarding Claim 13, on receipt of a request to eject the recording medium, the method further comprises: obtaining a last recorded position of data on the recording medium 2; recording, when formatting has been completed to a position of each recording layer corresponding to the last recorded area, predetermined data at a position immediately after the last recorded position in the recording layer having the last recorded position and at a position immediately after a position corresponding to the last recorded position in each recording layer in which the data is not recorded; and ejecting the recording medium after recording the predetermined data (Figs. 5A and 6; data area excerpt user data BE is formatted).

Regarding Claim 15, the recording medium 2 is an optical disk (Fig. 1).

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7. Apparatus claims 16-25, 28 and 30 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1-10, 13 and 15. Therefore apparatus claims 16-25, 28 and 30 correspond to method claims 1-10, 13 and 15, and are rejected for the same reasons of anticipation as used above.

8. Sasaki teaches an information recording and reproducing apparatus having all of the elements and means as recited in claims 31 and 32. Sasaki teaches the following:

Regarding Claim 31, the information recording and reproducing apparatus (Fig. 1) configured and arranged to record data on and reproduce data from each of a plurality of recording layers of a recording medium (Fig. 2C), comprising: a controller 13 (Fig. 1) that controls a formatting process to format the recording medium 2 by starting from one of the recording layers 0/1 (Fig. 2B) of which recording order of data is latest (recording in a second layer 1) and progressing the formatting from one of the recording layers (layer 0/1) of which the recording order is later (layer 1) toward one of the recording layers of which the recording order is earlier (layer 0 is formatted; background formatting).

Regarding Claim 32, the recording medium 2 is an optical disc (Fig. 1), and the controller 13 controls to start the



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formatting process of each of the recording layers (0/1) from an inner side of said optical disc (Fig. 2B; starts from lead-in area of the middle area).

9. Claims 35 and 36 have limitations similar to those treated in the above rejection, and are met by the references as discussed above.

10. Method claims 39 and 40 are drawn to the method of using the corresponding apparatus claimed in claims 31 and 32.

Therefore method claims 39 and 40 correspond to apparatus claims 31 and 32 and are rejected for the same reasons of anticipation as used above.

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***Allowable Subject Matter***

11. Claims 11, 12, 14, 26, 27, 29, 33, 34, 37, 38, 41 and 42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

Regarding Claim 11, on receipt of a request to eject the recording medium, if an end position of the user data on the first recording layer is further in the radially outer direction of the recording medium than an end position of formatted data on the second recording layer, then the method further comprises: performing a formatting process on the data area of the second recording layer so as to make the radial position of the end position of formatted data on the second recording layer correspond to the radial position of the end position of the user data on the first recording layer.

Regarding Claim 12, on receipt of a request to eject the recording medium, if an end position of the recording of the user data on the first recording layer is further in the radially outer direction of the recording medium than an end

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position of formatted data on the second recording layer, then the method further comprises: performing a formatting process on the data area of the second recording layer so as to make the address of the end position of formatted data on the second recording layer be the bit inverted address of the address of the end position of the user data on the first recording layer.

Regarding Claim 14, on receipt of a request to eject the recording medium, the method further comprises: obtaining a last recorded position of data on said recording medium; obtaining a format end position of each recording layer in which the data is not recorded yet; recording dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; recording predetermined data at a position immediately after the recorded dummy data in each recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said

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format end position in each recording layer in which data is not recorded yet and formatting has completed; and  
ejecting said recording medium after recording the predetermined data.

Regarding Claim 26, the apparatus is further arranged such that on receipt of a request to eject the recording medium, if an end position of the recording of the user data on the first recording layer is further in the radially outer direction of the recording medium than an end position of formatted data on the second recording layer, then the apparatus is further arranged to: format the data area of the second recording layer so as to make the radial position of the end position of formatted data on the second recording layer correspond to the radial position of the end position of the user data on the first recording layer.

Regarding Claim 27, the apparatus is further arranged such that on receipt of a request to eject the recording medium, if an end position of the recording of the user data on the first recording layer is further in the radially outer direction of the recording medium than an end position of formatted data on the second recording layer, then the apparatus is further arranged to: format the data area of the second recording layer so as to make the address of the end position of formatted data

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on the second recording layer be the bit inverted address to the address of the end position of the user data on the first recording layer.

Regarding Claim 29, on receipt of a request to eject the recording medium, the apparatus is adapted to: obtain a last recorded position of data on said recording medium; obtain a format end position of each recording layer in which the data is not recorded yet; record dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; record predetermined data at a position immediately after the recorded dummy data in each recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and eject said recording medium after recording the predetermined data.

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Regarding Claim 33, the controller controls an eject process to eject said recording medium from said information recording and reproducing apparatus so as to obtain a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; record, when formatting has been completed to a position of each recording layer corresponding to said last recorded area, predetermined data at a position immediately after said last recorded position in the recording layer having said last recorded position and at a position immediately after a position corresponding to said last recorded position in each recording layer in which the data is not recorded; and eject said recording medium after recording the predetermined data.

Regarding Claim 34, the controller controls an eject process to eject said recording medium from said information recording and reproducing apparatus so as to obtain a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; obtain a format end position of each recording layer in which the data is not recorded yet; record dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data

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in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; record predetermined data at a position immediately after the recorded dummy data in each the recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and eject said recording medium after recording the predetermined data.

Regarding Claim 37, means for obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; means for recording, when formatting has been completed to a position of each recording layer corresponding to said last recorded area, predetermined data at a position immediately after said last recorded position in the recording layer having said last recorded position and at a position immediately after a position corresponding to said last recorded position in each recording layer in which the data is not recorded; and means for ejecting said recording medium after recording the predetermined data.

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Regarding Claim 38, means for obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; means for obtaining a format end position of each recording layer in which the data is not recorded yet; means for recording dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; means for recording predetermined data at a position immediately after the recorded dummy data in each the recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and means for ejecting said recording medium after recording the predetermined data.

Regarding Claim 41, a step of obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; a step of recording,



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when formatting has been completed to a position of each recording layer corresponding to said last recorded area, predetermined data at a position immediately after said last recorded position in the recording layer having said last recorded position and at a position immediately after a position corresponding to said last recorded position in each recording layer in which the data is not recorded; and a step of ejecting said recording medium after recording the predetermined data.

Regarding Claim 42, a step of obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; a step of obtaining a format end position of each recording layer in which the data is not recorded yet; a step of recording dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; a step of recording predetermined data at a position immediately after the recorded dummy data in each the recording layer having said last recorded position of the data, at a position immediately after said

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format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and a step of ejecting said recording medium after recording the predetermined data.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

#### ***Related Prior Art***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yonezawa (7,248,541) is pertinent because Yonezawa teaches a two layer optical disc having a detecting means for recorded regions.

Ono et al. (6,317,403) is pertinent because Ono teaches a physical layout of a two layer optical disc.

Murotani (US 2005/0207304) is pertinent because Murotani teaches a physical layout of a two layer optical disc.

Tateishi (US 2002/0054548) is pertinent because Teteishi teaches a physical layout of a two layer optical disc.

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14. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on (571) 272-7579.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

/Kim-Kwok CHU/  
Examiner AU2627  
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/HOA T NGUYEN/  
Supervisory Patent Examiner, Art Unit 2627